

CLAIMS

1. A method of manufacturing a new type of connecting piece of electrically
conductive material, preferably a cable shoe, holder or connection device,
which is to be joined with another object of electrically conductive material
5 using a brazing process without residual detrimental martensite structure in
the object under the braze joint, *characterised* in that a homogeneous
body consisting of front portion (8), middle portion (9) and end portion
(10), is formed into a brazing block (11), which, in its front portion (8) is
compressed by a brazing clip (14) to comprise a joint part, the brazing clip
10 (14) consisting of two underlying parts (20) and two clamping tabs (15)
which are pressed into the front portion (8) of brazing block (11) and also
an underlying middle portion (19) and two side portions (16) outside the
front portion (8) of the brazing block (11) and the brazing clip (14) being
oriented in a transversal direction with respect to the brazing block (11),
15 and the middle portion (9) being formed so that a semicircular raised guid-
ing edge (12) of a shape adapted to a guard ring (22) attached during the
brazing process is formed in connection with the front portion (8), and the
surface of the front portion (8) of the brazing block being superficially modi-
fied by blasting, knurling and/or with cavities, or other surface-modifying
20 measure, and the end portion (10) of the brazing block (11) being formed
to a co-operating part, and the brazing block (11) alone or joined in appro-
priate constellations using, for example, pressing, brazing, riveting, drilling
or welding with other co-operating parts such as rings, pipes, threaded bolt
parts, holes, wings, tongues, hooks or other brazing-block parts, as well as
25 cables or threads, comprising a connecting piece (4), for example, cable
shoe, holder or connection device.
2. A connecting piece of electrically conductive material, preferably a cable
shoe, a holder or a connection device, which is to be joined with another
object of electrically conductive material using a brazing process without
30 residual detrimental martensite structure in this other object,
characterised in that the connecting piece's joint part consists of a
homogeneous brazing block (11) consisting of front portion (8), middle por-
tion (9) and end portion (10), and a secured brazing clip (14) encompass-

ing the front portion (8) and partially pressed into the top side, at least the top side of the front portion (8) of the brazing block (11) having had its surface enlarged by blasting and/or knurling (24) or other surface-modifying measure so that the heat-absorption capability of the front portion (8) from the electric arc (34) manipulating the surface and the carbon deposit (26) formed on the surface by the carbon electrode has increased, which thereby enables a rapid initial increase in temperature in the surface layer during the brazing process the surface layer, resulting in a more secure connection between the carbon layer (26) and the top side of the front portion (8), a rapid initial increase in temperature in the front portion (8) and in the brazing clip (14), resulting in a reduction of oxidation interference before the braze joint has been formed, and a relative reduction in cooling effect, mainly by heat conduction partially because of a changed ratio of surface to mass, partially because of the fact that the matter diverting the heat does not reach the higher temperatures at which the heat conductivity of the substance increases, which factors thereby together enable a dimensional increase of the connecting piece (4) and a relative reduction of the energy necessary for the brazing process, and the local ridges and peaks functioning to concentrate electrons or electron holes to facilitate the ignition and maintaining of an electric arc (34) between the joint part and the carbon electrode (21), and cavities (25) made in the surface draining and reducing the thickness of the carbon deposit (26) and comprising anchoring points for the carbon deposit (26).

3. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the brazing clip (14) is formed from a piece of sheet metal not being hole-punched, and both overlying clamping tabs (15) of the brazing clip (14) being pressed into the top surface of the front portion (8) of the brazing block (11) while the side portions (20) of the bottom surface of the brazing clip (14) have been pressed into the brazing block, and no flux exists between the brazing block and the brazing clip, and corners and short sides (16) of the brazing clip not protruding outside the body of the brazing block (11).

4. A connecting piece of electrically conductive material according to Claim 2,

5 *characterised* in that the end portion (10) of the brazing block (11) of the joint part is shaped to fit into a pipe portion (7), that a cable or thread (6), together with the joint part, are inserted into a pipe portion (7) that is being compressed, and that the compression joint is being brazed or welded.

- 10 5. Connecting piece of electrically conductive material according to Claim 2, *characterised* in that the front portion (8) of the brazing block (11) of the joint part is dimensioned to allow for modification of its shape according to the workpiece 5 using available pressure from the guard ring (22) together with the reached temperature, thereby accomplishing an evenly thick braze joint.
- 15 6. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the end portion (10) of the brazing block of the joint part is shaped for and joined with a connection pipe (28), intended to subsequently receive in its other end a cable or thread (6).
7. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the end portion (10) of the brazing block (11) of the joint part is shaped with a connection where one or several threaded bolt portions are secured.
- 20 8. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the end portion (10) of the brazing block (11) of the joint part is directly or indirectly joined with one or several other connecting pieces (4).
- 25 9. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the end portion (10) of the brazing block (11) of the joint part is provided with one or several tongues which are folded and pressed around or support optional elements.
- 30 10. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the end portion (10) of the brazing block (11) of the joint part is provided with side wings which are folded and pressed around a cable or thread (6), whereupon the compression joint is being

brazed or welded.

11. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the end portion (10) of the brazing block (11) of the joint part is provided with one or several mounting holes (33).
- 5 12. A connecting piece of electrically conductive material according to Claim 2, *characterised* in that the front portion (8) of the brazing block (11) of the joint part is common to one or several brazing blocks (11).